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ABSTRACT

This module cluster is one of several developed for the Camden Teacher Corps project. The general objectives are tc enable students to a) define basic operant terms, b) state basic operant principles, c) read operant measurement charts, and d) use operant principles and measurement in elementary classrooms with both social and academic behaviors. The module cluster is designed to be used by students in cooperation with the instruction. Each module is divided into the following sections: statement of objective, prerequisite, preassessment, instructional activities, postassessment, and remediation. (Lists of related books, journals, films, and programs are appended.) (JA)

ED 090187

Module Cluster: TTP - 001a.00 (GSC)

Reinforcement Principles for Elementary Classroom Use

Dr. George Brent

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Department of Elementary Education

SP 007 917

State of New Jersey
GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

August 6, 1973

Dear Colleague:

Our involvement in the Camden Teacher Corps Project has resulted in the development of several module clusters. The clusters are the primary mode of instruction in this competency-based teacher education program. The program follows the guidelines set forth by the U.S. Office of Education, Department of H E W.

Many of these modules are based on a list of teacher competencies which has been developed by members o the Elementary Education Department. The list represents the core competencies and is intended to be representative of a behavioral approach to teaching. These competencies comprise the nucleus of Glassboro's teacher education program.

All these modules specify competencies and describe a scenario for self-paced learning in a field oriented setting. Clearly this is a process which is in marked contrast to the accumulation of credits acquired primarily in college classrooms.

We invite your use, criticism, and refinement of these modules as a means of joining us in creating a more generative climate for developing competent, open, and hopefully healthy-minded teachers.

Sincerely yours,

F. Goodfellow

Frank Goodfellow
IHE Coordinator-Camden Teacher
Corps Project
Chairperson, Elementary Education Dept.

Reference System Designation:	TTP - 001a.00 (GSC)
Program:	Seventh Cycle Teacher Corps Program at Glassboro State College, Glassboro, N. J.
Component:	Teaching Theories and Practices
Module Cluster:	Reinforcement Principles for Elementary Classroom Use
Developer:	Dr. George Brent
Date of Development:	Summer, 1973

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Instructions for Using a Glassboro State College Module Cluster

A Glassboro State College Module Cluster aims at arranging a learning experience in a very specific way. The goal of the cluster is to facilitate successful, self-paced learning for the student.

1. Glassboro State College module clusters are intended to be used by students with the cooperation of an instructor. The instructor will give a brief explanation about the particular modular cluster. This should include the rationale for the cluster as well as general arrangements for completing the module.

2. After the initial meeting with the instructor, the student can begin work on the module cluster. Within a cluster the modules are presented sequentially.

3. When a student begins to study a module, he should first read the Objective, Prerequisite, and Pre-assessment sections. A number of alternatives are then available. For example, the student may decide after reading the pre-assessment procedures that he is competent in that area. He may then complete the entire pre-assessment and discuss the results with the instructor. The instructor will then be able to verify the student's competence.

4. A second choice is possible if the student feels unsure of the material as presented in the pre-assessment. He can then skip the pre-assessment and complete the module step by step, including the post-assessment procedures.

5. The instructor will consult with the student after the post-assessment is completed. At this point if the student and instructor feel the competency involved has been demonstrated, the student will move to the next module in the cluster. If the post-assessment reveals some deficiency, remediation will be assigned and another form of post-assessment will then be used.

TTP - 001a.00 (GSC) Reinforcement Principles for Classroom Use

General Objectives of the Module Cluster

The purpose of this module is to enable students to define the basic operant terms, to state the basic operant principles, to read operant measurement charts, and to use operant principles and measurement in elementary classrooms with both social and academic behaviors.

Prerequisites to the Module Cluster

This module cluster does not require students to have any prerequisite competencies other than those which typically would be considered as program entrance requirement.

Modules Within the Module Cluster

This module cluster contains 13 modules. These are as follows:

TTP - 001a.01 (GSC) - Defining Operant Terms

TTP - 001a.02 (GSC) - Basic Operant Principles

TTP - 001a.03 (GSC) - Analysis of Behavior in Operant Terms

TTP - 001a.04 (GSC) - Operant Measurement Techniques

TTP - 001a.05 (GSC) - Recording Operant Behaviors

TTP - 001a.06 (GSC) - Specifying the Situation in Which Measurement Takes Place

TTP - 001a.07 (GSC) - Examples of Operant Studies

TTP - 001a.08 (GSC) - Writing Instructional Objectives

TTP - 001a.09 (GSC) - Classroom Measurement of a Social Behavior

TTP - 001a.10 (GSC) - Classroom Measurement of an Academic Behavior

TTP - 001a.11 (GSC) - Modification of a Social Behavior

TTP - 001a.12 (GSC) - Modification of Academic Behavior I

TTP - 001a.13 (GSC) - Modification of Academic Behavior II

TTP - 001a.01 (GSC) Defining Operant Terms

Objective

The student will be able to define and give examples consistent with operant psychology of the following terms:

operant behavior	continuous reinforcement
reinforcement	intermittent reinforcement
reinforcer	token reinforcement
extinction	punishment
satiation	generalization
positive reinforcement	discrimination
negative reinforcement	chaining
shaping	S^D R S^R

Prerequisite

TTP - 002.00 (GSC)

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read Managing Behavior 2 by Hall.
2. Using the objective of this module and Managing Behavior 2 as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.01

I. Write the corresponding letter in front of each statement.

A. reinforcer
B. shaping
C. extinction
D. primary reinforcer
E. punishment
F. negative reinforcement

1. _____ The procedure of following a behavior by a consequence which decreases its strength.

2. _____ A procedure of differentially reinforcing successive approximations step by step, until the desired terminal behavior is achieved.

3. _____ Any event that increases the strength of the behavior it follows.

4. _____ The process of [illegible]ing reinforcers until behavior returns to low levels.

5. _____ Does not depend upon previous conditioning for its reinforcing power (unconditioned).

6. _____ The process of taking away something bad contingent on the desirable behavior.

II. Fill in the blank with the most appropriate answer.

7. Continued reinforcement at a high rate may result in _____.

8. Behavior which has been reinforced will occur in similar situation due to _____.

9. If a child is reinforced once in a while, he is on a _____ schedule.

10. A child learns to dig in his sandbox and not in the garden. This is an example of _____.

11. S^D is the symbol for _____.

12. _____ is the process by which one response produces a stimulus change which increases the probability of a new response, which in turn, produces another stimulus change.

TTP - 001a.00 (GSC) Basic Operant Principles

Objective

The student will be able to -

1. State the basic principle of operant behavior according to Hall.
2. Explain how it can be determined if a consequence is a reinforcer.
3. Explain why reinforcement must be immediate.
4. Indicate the differences and similarities between positive reinforcement and negative reinforcement.
5. List the steps involved in shaping.
6. List the advantages of continuous reinforcement and of intermittent reinforcement.
7. List four advantages of token reinforcement.
8. Explain how it can be determined if a consequence is a punisher.
9. List two reasons punishment is generally not a desirable procedure.
10. List the two basic punishment operations.
11. State why both generalization and discrimination are both necessary for efficient learning to take place.

Prerequisite

TTP - 001a.01 (GSC)

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read Managing Behavior 2 by Hall.
2. Using the objective of this module and Managing Behavior 2 as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.02

I. Fill in the blank with the correct answer(s).

1. The basic principle of operant behavior according to Hall is:
_____.

2. A consequence is a reinforcer if _____.

3. Reinforcement must be immediate because _____.

4. Positive reinforcement is different than negative reinforcement because _____.

5. The similarities between positive and negative reinforcement are:
_____.

6. Shaping involves the following 3 steps:

1. _____
2. _____
3. _____.

7. Several advantages of token reinforcement are: _____.

8. A consequence is a punisher if _____.

9. Punishment is generally not a desirable procedure because _____.

10. Generalization and discrimination are both necessary for efficient learning to take place because _____.

TTP - 001a.03 (GSC) Analysis of Behavior in Operant Terms

Objective

Given a description of classroom behavior, the student will be able to analyze it in operant terms.

Prerequisite

TTP - 001a.02

Pre-assessment

The pre-assessment procedure consists of the basic principles final examination (p. 23-25) in Hall's Managing Behavior 2. 80% accuracy is required.

Instructional Activities

1. Read Managing Behavior 2 by Hall.

2. Using the objective of this module and Managing Behavior 2 as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-Assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and or/team leader.

TTP - 001a.04 (GSC) Operant Measurement Techniques

Objective

The student will be able to describe and illustrate the following measurement techniques -

1. Direct measurement of permanent products.
2. Event recording.
3. Interval recording.
4. Time sampling.

Prerequisite

TTP - 001a.03

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read Managing Behavior I by Hall.
2. Using the objective of this module and Managing Behavior I as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.04

I. Describe the following measurement techniques:

1. Direct measurement of permanent products.

2. Event recording.

3. Interval recording.

4. Time Sampling.

II. Use a separate graph to illustrate each of the above techniques. Be certain that the behavior being measured is clearly described.

TTP - 001a.05 (GSC) Recording Operant Behaviors

Objective

The student will be able to -

1. State why obtaining a baseline is the first step in modifying behavior.
2. State the usual way of representing operant data.
3. List several advantages for graphing data.
4. Identify a stable baseline.
5. Identify an ascending baseline.
6. Identify a descending baseline.
7. Make conventional graphs of operant behaviors.

Prerequisite

TTP - 001a.04 (GSC)

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read Managing Behavior I by Hall.
2. Using the objective of this module and Managing Behavior I as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

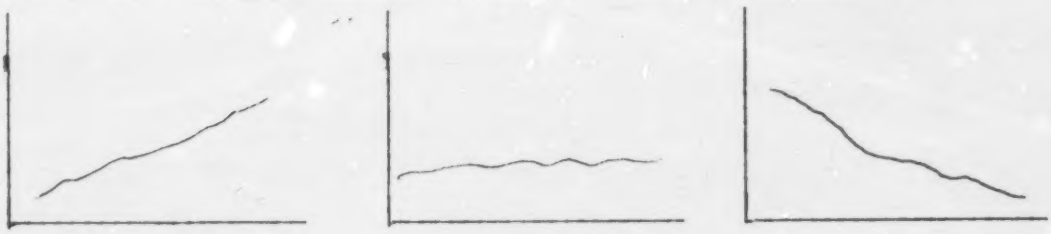
Pre-assessment TTP - 001a.05 (GSC)

I. 1. State why obtaining a baseline is the first step in modifying behavior.

2. State the usual way of representing operant data.

3. List the advantages for graphing.

II. Identify the following baselines (stable, ascending, descending).



4. _____ 5. _____ 6. _____

III. Construct a conventional graph of operant behavior. Indicate in a paragraph the situation that is being illustrated.

TTP - 001a.06 (GSC) Specifying the Situation In Which Measurement Takes Place

Objective

The student will be able to -

1. State the two setting factors that must be specified before measurement takes place and give an example specifying setting factors.

2. State procedures to follow when the setting factors change

   a. despite efforts to keep them constant.
   b. routinely.
   c. indicate a recording technique to account for minor setting changes.

Prerequisite

TTP - 001a.05 (GSC)

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read "A method to integrate descriptive and experimental field studies at the level of data and empirical concept" by Byon, Peterson and Ault, (JABA. 1968, 1, 175-191).

2. Using the objective of this module as a guide, restudy the same material by using any appropriate source listed in the appendices.

Post-assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.06

1. State the 2 major setting factors to be considered before measurement can take place.

2. The student being observed is in Mrs. Brown's class and is changed to Mrs. Clark's class. State any changes that will be needed in the original study.

3. The student being observed is in the morning reading group. The schedule is changed and reading now takes place in the afternoon for that reading group. State a procedure that will recognize this change.

TTP - 001a.07 (GSC) Examples of Operant Studies

Objective

Using the standard reporting form detailed in Managing Behavior I (p. 28), the student will be able to report on operant studies concerning social and academic behaviors emitted in elementary school settings.

Prerequisite

TTP - 001a.06 (GSC)

Pre-assessment

An interview by the student's instructor will be used to judge the student's competence in the pre-assessment test (following page).

Instructional Activities

1. Read p. 28 in Managing Behavior I by Hall.

2. Read Managing Behavior 3 by Hall.

Post-assessment

Using the standard reporting form and the Journal of Applied Behavior Analysis, report on one social and one academic study that involves an elementary school setting.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.07

Using fictitious information, write a report on an operant study concerning an academic behavior.

TTP - 001a.08 (GSC) Writing Instructional Objectives

Objective

The student will be able to write instructional objectives that include conditions, behavior, and criteria.

Prerequisite

TTP - 001a.07 (GSC)

Pre-assessment

90% accuracy is required on the pre-assessment test (following page).

Instructional Activities

1. Read Managing Behavior 5 by Wheeler and Fox.
2. After completing Managing Behavior 5, attend a seminar by your instructor on instructional objectives.

Post-assessment

90% correct completion of pages 34-37 in Managing Behavior 5 by Wheeler and Fox.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Pre-assessment TTP - 001a.08

Write an instructional objective - including conditions, behavior, and criteria for the following academic areas:

Academic Areas

1. Language Arts - punctuation.

2. Arithmetic - addition.

3. Reading - phonics.

4. Reading - comprehension.

TTP - 001a.09 (GSC) Classroom Measurement of a Social Behavior

Objective

The student will be able to -

1. Describe in specific terms the social behavior to be measured.
2. Measure the bheavior for two days in a single field situation using continuous recording, event recording, interval recording, or time sampling techniques.
3. Present the data on a graph similar to those displayed in Managing Behavior 3.

Prerequisite

TTP - 001a.08

Pre-assessment

The student may submit graphs previously completed that meet the specifications included in the objective.

Instructional Activities

1. Read Managing Behavior 1 by Hall.
2. Read Managing Behavior 3 by Hall.
3. Use any appropriate resource in the appendices as a guide.

Post-assessment

The student will submit a graph that completely meets the specifications included in the objective.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

TTP-001a.10 (GSC) Classroom Measurement of an Academic Behavior

Objective

The student will be able to -

1. Describe in specific terms the academic behavior to be measured.
2. Measure the behavior for three days in a single field situation using any frequency-of-occurrence recording technique.
3. Present the data on a graph similar to those displayed in Managing Behavior 3.

Prerequisite

TTP-001a.00 (GSC)

Pre-Assessment

The student may submit graphs previously completed that meet the specifications included in the objective.

Instructional Activities

1. Read Managing Behavior 1 by Hall.
2. Read Managing Behavior 2 by Hall.
3. Use any appropriate resource in the appendices as a guide.

Post-Assessment

The student will submit a graph that completely meets the specifications included in the objective.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

TTP-001a.11 (GSC) Modification of Social Behavior

Objective

The student will be able to modify a social behavior occurring in an elementary classroom and report the results using the standard reporting format (Managing Behavior 1) and supporting graphs.

Prerequisite

TTP-001a.10 (GSC)

Pre-Assessment

The student may submit graphs previously completed that meet the specifications included in the objective.

Instructional Activities

1. Read Managing Behavior 1 by Hall.
2. Read Managing Behavior 2 by Hall.
3. Read Managing Behavior 3 by Hall.
4. Use any appropriate resource in the appendices as a guide.

Post-Assessment

The student will have a discussion with the instructor based on the report and graphs submitted. Procedures employed in the study must be consistent with operant principles and reported correctly.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

TTP-001a.12 (GSC) Modification of Academic Behavior I

Objective

The student will be able to -

1. Describe in specific terms the academic behavior to be measured.
2. Measure the behavior for two days in a single field situation using continuous recording, event recording, interval recording, or time sampling.
3. Present the data on a graph similar to those displayed in Managing Behavior 3.

Prerequisite

TTP-001a.11 (GSC)

Pre-Assessment

The student may submit graphs previously completed that meet the specifications included in the objective.

Instructional Activities

1. Read Managing Behavior 1 by Hall.
2. Read Managing Behavior 2 by Hall.
3. Read Managing Behavior 3 by Hall.
4. Use any appropriate resource in the appendices as a guide.

Post-Assessment

The student will have a discussion with the instructor based on the report and graphs submitted. Procedures employed in the study must be consistent with operant principles and reported correctly.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

TTP-001a.13 (GSC) Modification of Academic Behavior II

Objective

The student will be able to -

1. Record baseline information on an academic behavior for every member of an instructional group (4-10 members).
2. Modify the academic behaviors that are judged deficient by the student.
3. Report all results using the standard reporting format (Managing Behavior 1) and use supporting graphs.

Prerequisite

TTP-001a.12

Pre-Assessment

The student may submit graphs previously completed that meet the specifications included in the objective.

Instructional Activities

1. Read Managing Behavior 1 by Hall.
2. Read Managing Behavior 2 by Hall.
3. Read Managing Behavior 3 by Hall.
4. Use any appropriate resource in the appendices as a guide.

Post-Assessment

The student will have a discussion with the instructor based on the report and graphs submitted. Procedures employed in the study must be consistent with operant principles and reported correctly.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Appendix A

BOOK LIST - OPERANT CONDITIONING

1. Ackerman, J. (1972) Operant Conditioning Techniques for the Classroom Teacher. Glenview, Illinois: Scott, Foreman.

2. Bandura, A. (1969) Principles of Behavior Modification. New York: Holt, Rinehart.

3. Becker, W. (1971) An Empirical Basis for Change in Education. Chicago: SRA.

4. Becker, W.; Engelmann, S.; and Thomas, R. (1971) Teaching: A Course in Applied Psychology. Chicago: SRA.

5. Buckley, N. and Walker, H. (1970) Modifying Classroom Behavior. Champaign, Illinois: Research Press.

6. Evans, R. (1968) B.F. Skinner The Man and His Ideas. New York: E.P. Dutton.

7. Ferster, C. and Perratt, M. (1968) Behavior Principles. New York: Meredith.

8. Ferster, C. and Skinner, B. (1957) Schedules of Reinforcement. New York: Appleton.

9. Hall, R. (1971) Managing Behavior I, II, III. Lawrence, Kansas: H & H Enterprises.

10. Haring, N. (1968) Attending & Responding. Belmont, California: Fearon.

11. Haring, N. and Phillips, E. (1972) Analysis and Modification of Classroom Behavior. Englewood Cliffs, New Jersey: Prentice-Hall.

12. Holland, J. and Skinner, B (1961) The Analysis of Behavior. New York: McGraw-Hill.

13. Homme, L. (1971) How to Use Contingency Contracting in the Classroom. Champaign, Illinois: Research Press.

14. Honig, W. (1966) Operant Behavior: Areas of Research and Application. New York: Appleton.

15. Lundin, R. (1969) Personality: A Behavioral Analysis. London: Macmillan

16. Michael, J. (1967) Management of Behavioral Consequences in Education. Unpublished.

17. Millenson, J. (1970) Principles of Behavioral Analysis. New York: Macmillan.

18. Ramp, E. and Hopkins, B (1971) A New Direction for Education: Behavior Analysis. Lawrence, Kansas: University of Kansas.

19. Reynolds, G. (1968) A Primer of Operant Conditioning. Glenview, Illinois: Scott, Foresman.

20. Sidman, M. (1960) Tactics of Scientific Research. New York: Basic Books.

21. Skinner, B. (1953) Science and Human Behavior. New York: Macmillan.

22. Skinner, B. (1969) Contingencies of Reinforcement. New York: Appleton.

23. Skinner, B (1959) Cumulative Record. New York: Appleton.

24. Skinner, B. (1968) The Technology of Teaching. New York: Appleton.

25. Staats, A. (1968) Learning, Language & Cognition. New York: Holt.

26. Tharp, R. and Wetzel, R. (1969) Behavior Modification in the Natural Environment. New York: Academic Press.

Appendix B

JOURNAL LIST - OPERANT CONDITIONING

1. Exceptional Children - Volume 35, Number 2, 1968 and Volume 37, Number 2, 1970.
2. Journal of Applied Behavior Analysis - Volumes 1-5.
3. Teaching Exceptional Children - Volume 3, Number 3, 1971.

Appendix C

FILM LIST - OPERANT CONDITIONING

1. Reese, H. (1965) Behavior Theory in Practice. New York: Appleton.
2. Reese, H. (1971) Born to Succeed. New York: Appleton.

Appendix D

HUMAN RESOURCE LIST - OPERANT CONDITIONING

(Available for seminars and tutoring.)

1. Dr. George Brent, Glassboro State College, Glassboro, New Jersey, 08028.

Appendix E

PROGRAM - OPERANT CONDITIONING

1. Learning Center, Anne Arundel County, Maryland.

Check-off Sheet for Modules in TTP - 001a.00 (GSC) *

Modules	Date	Instructor Signature
.01	_____	_____
.02	_____	_____
.03	_____	_____
.04	_____	_____
.05	_____	_____
.06	_____	_____
.07	_____	_____
.08	_____	_____
.09	_____	_____
.10	_____	_____
.11	_____	_____
.12	_____	_____
.13	_____	_____

Student Signature: _____

* To be completed in duplicate

About The College

Located in South Jersey, Glassboro State College is just 20 miles southeast of Philadelphia and Camden. Twenty-five buildings fill the 200 acres of this co-educational college, which has 6,000 full-time and 6,000 part-time students.

GSC offers bachelor's degrees in 8 major areas: professional studies, arts and sciences and fine and performing arts.

In professional studies we offer teaching degrees in areas ranging from elementary through high school.

You can major in one of 15 programs in the arts and sciences, including communications, journalism, law/justice, political science, chemistry and administrative studies (accounting, marketing, management).

In fine and performing arts we offer degrees in art, music and speech and theatre.

GSC also offers an M.A. degree in 20 areas of teacher education.